



# ***Eastern Area Spring/Summer 2006 Fire Weather/ Fire Danger Outlook***

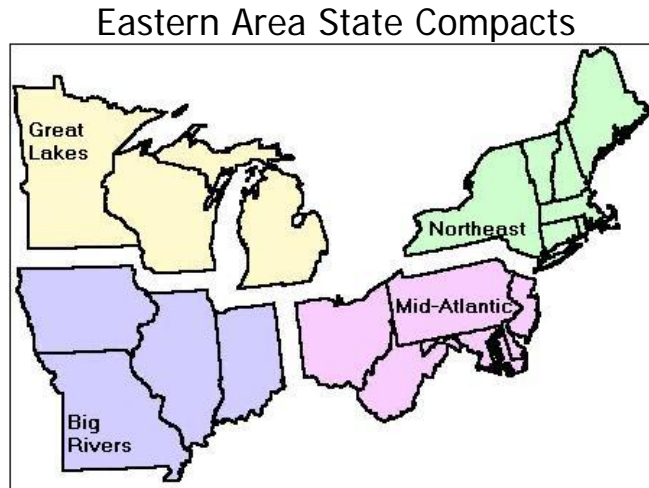
Initial Assessment  
*January 20, 2006*

Graphics Updated  
*May 5, 2006*

EACC Predictive Services

## **Introduction and Executive Summary**

This outlook was initially compiled with weather and climate data available towards the end of January 2006, and is an estimate of expected conditions for late winter and spring seasons in the Eastern Area. Information included in this outlook was presented at the 2006 Eastern/Southern Area Seasonal Assessment Workshop held in Shepherdstown, WV in mid-late January, with the goal of providing fire management personnel an area wide outlook for the spring of 2006. Due to the variability in the data and weather computer model limitations, it is important for the local fire manager to know and monitor their own area of responsibility and to base their actions on local fuel conditions and weather variables.



The El Niño Southern Oscillation (ENSO) through the first part of the winter of 2005-06 transitioned from a weak El Niño state into a weak La Niña state, and will likely remain in a weak La Niña state through the remainder of the winter season. Historically, weak to neutral ENSO climatic impacts during this outlook period are uncertain across the Eastern Area. Climate forecasts for the late winter and early spring of 2006 project a 33 to 40 percent chance of above normal temperatures across much of the Mid-Atlantic states from February through April. A 33 to 40 percent chance of above normal precipitation from February through May was indicated across the southeastern Big Rivers and western half of the Mid-Atlantic states. Meanwhile, a 33 to 40 percent chance of below normal precipitation bordered the western Big Rivers from February through May.

The driest areas of the Eastern Area overall throughout 2005 were the southwestern, northwestern and north central Big Rivers as well as southern Wisconsin and southwestern Michigan. The dry areas of the Big Rivers persisted into the 2005-06 winter season. Local officials reported that moisture deficits had improved across southwestern Michigan. However, far southern Wisconsin still reported soil moisture and precipitation deficits at the middle part of January 2006.

Much of the eastern 2/3 of the Northeast Compact as well as the northeastern Mid-Atlantic states experienced above normal precipitation amounts overall through 2005. While below normal snow fall amounts, outside of northern Maine, and above normal temperatures have prevailed over these areas, near to below normal large fire potential is anticipated during the spring of 2006.

The majority of the Mid-Atlantic and Northeast Compacts received near normal precipitation amounts through much of 2005 and this precipitation kept fire occurrence at or below normal over these areas. There were a few dry periods during the fall across southern Ohio and West Virginia but they were generally short lived. The Climate Prediction Center's 90 day precipitation forecasts February through April as well as March through May call for a decent chance of above normal precipitation across the western Mid-Atlantic states. This above normal precipitation has been forecast to extend further to the northeast into the Northeast Compact by Kevin Scasny, Assistant Fire Weather Program Manager at the Southern Area Coordination Center. This should lead to below normal large fire potential across these areas during the spring of 2006. However, if below normal snow depths continue across the northern Mid-Atlantic and much of the Northeast states an earlier than normal start to the spring season is anticipated.

The graphic displayed below shows expected fire potential for the spring of 2006. This outlook incorporates the condition of fuels across the Eastern Area based on the latest precipitation and soil moisture anomalies, drought and snow depth data. The outlook also utilizes the Climate Prediction Centers 90 Day Forecasts presented at the 2006 Eastern/Southern Area Climate Assessment Workshop held towards the end of January 2006.

## May through July 2006 Fire Potential



The spring fire season is driven by fine dead fuels and the influence of relatively short term weather patterns/episodes. Developing a seasonal fire activity outlook based on this fuel component is difficult when referencing climate forecasts/projections. Given the antecedent conditions in place towards the end of January and the longer term temperature and precipitation Climate Prediction Center forecasts, the areas in the above figure were highlighted in above and below normal fire potential for the time period of February through May of 2006.

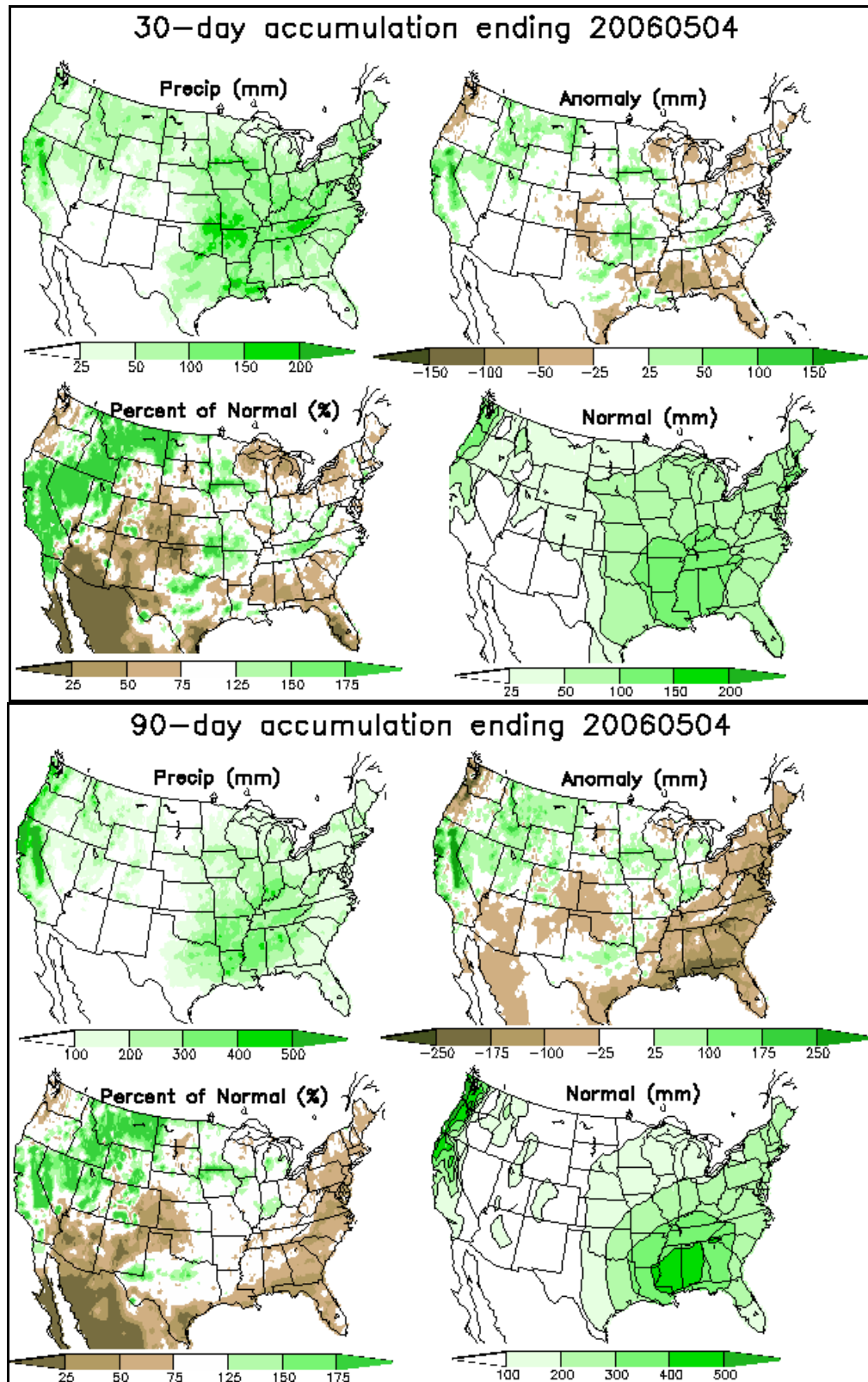
It is difficult to assess fuel conditions at this early date. Related to fire activity these fuels are responsive to short term weather variations versus seasonal trends. However, discounting the potential for major fires during the spring would be a serious mistake. Fire frequency peaks during the spring, due to the abundance of fine dead fuels and the absence of live green fuels. These fuels are readily available and respond to short term variations in weather that cannot be reliably inferred from the national situation and the longer term Climate Prediction Center forecast products included.

Vegetation types that are grass dominated or that grow on thin or sandy soils respond to even short duration drying and are prone to burn aggressively in otherwise normal periods. Though this area of concern represents less than 10% of the total acreage in the Eastern Area, located largely on Cape Cod, Long Island, the New Jersey Pine Barrens, the Del-Mar-Va peninsula, and the northern Great Lakes, they are interspersed with widespread interface communities.

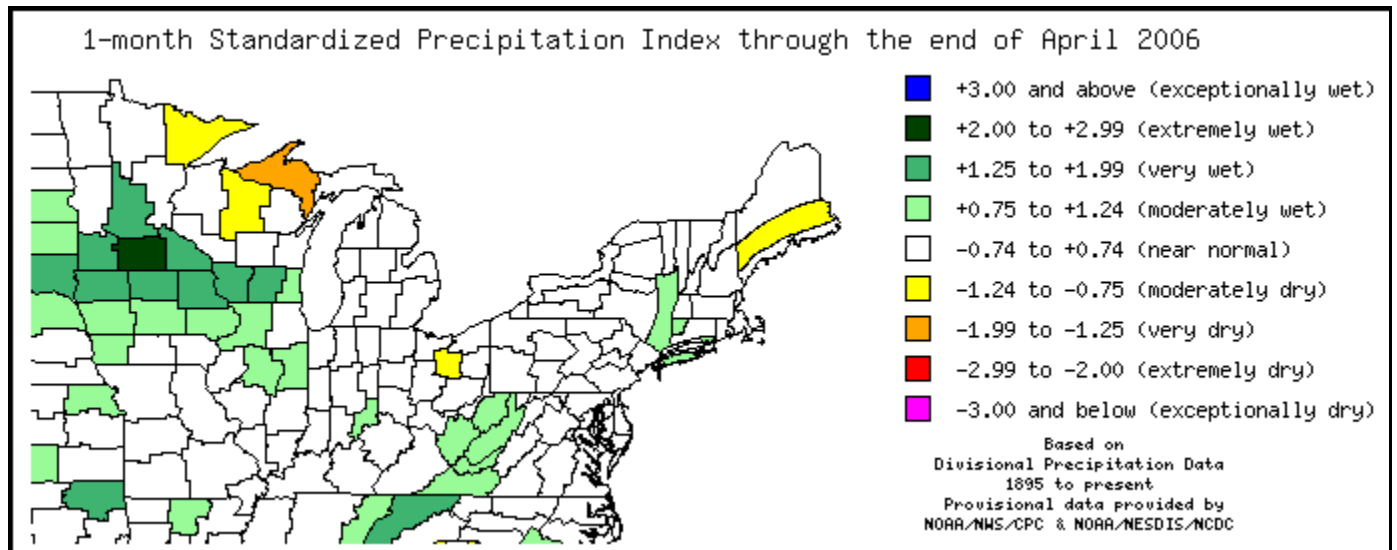
## Current Conditions

### ***Accumulated Precipitation and Drought Review***

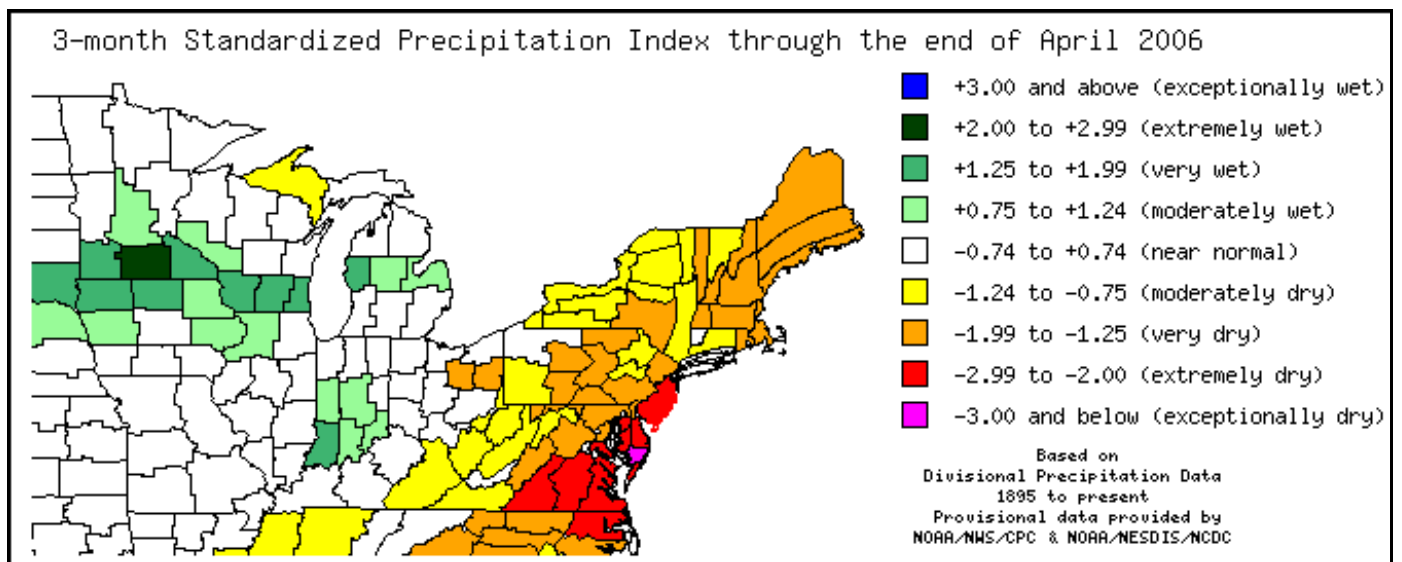
The following graphics display accumulated precipitation data for the previous 30 and 90 day periods ending on May 4, 2006. Over the 30 days leading up to March 30, portions of the northern and northeastern Great Lakes, as well as the Northeast states received below normal amounts of precipitation. The 90-day period preceding May 4 produced below normal precipitation amounts across much of the eastern portions of the Northeast and Mid-Atlantic states.



## Standard Precipitation Index

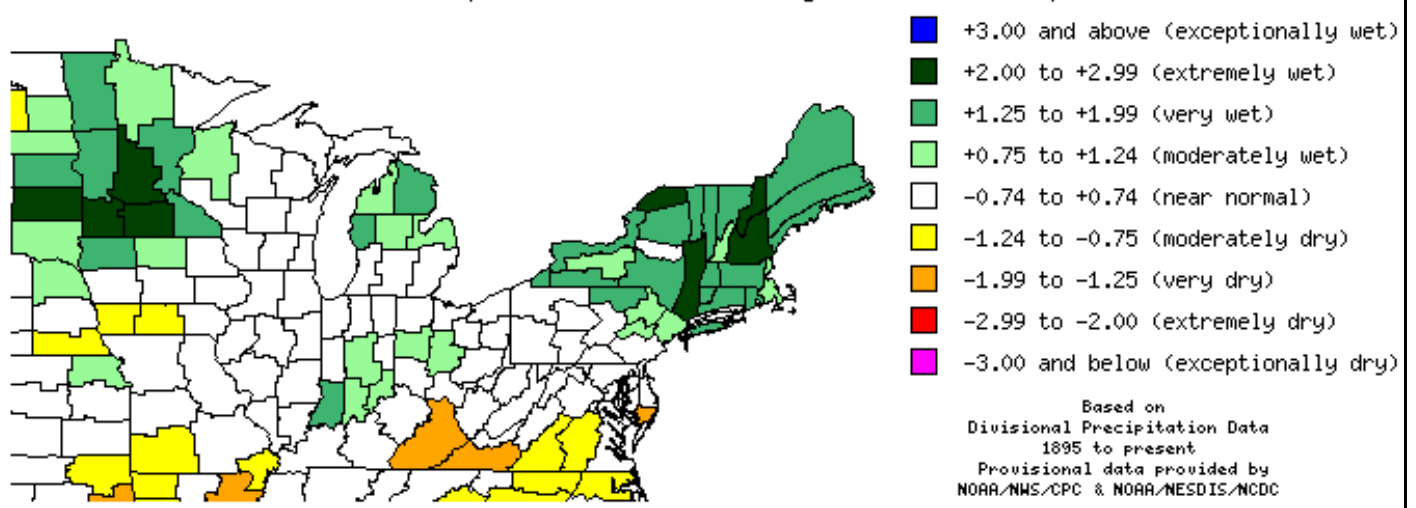


- The one month Standard Precipitation Index map shows dry conditions in place at the end of April 2006 across the north central Great Lakes, and near the coast of Maine.

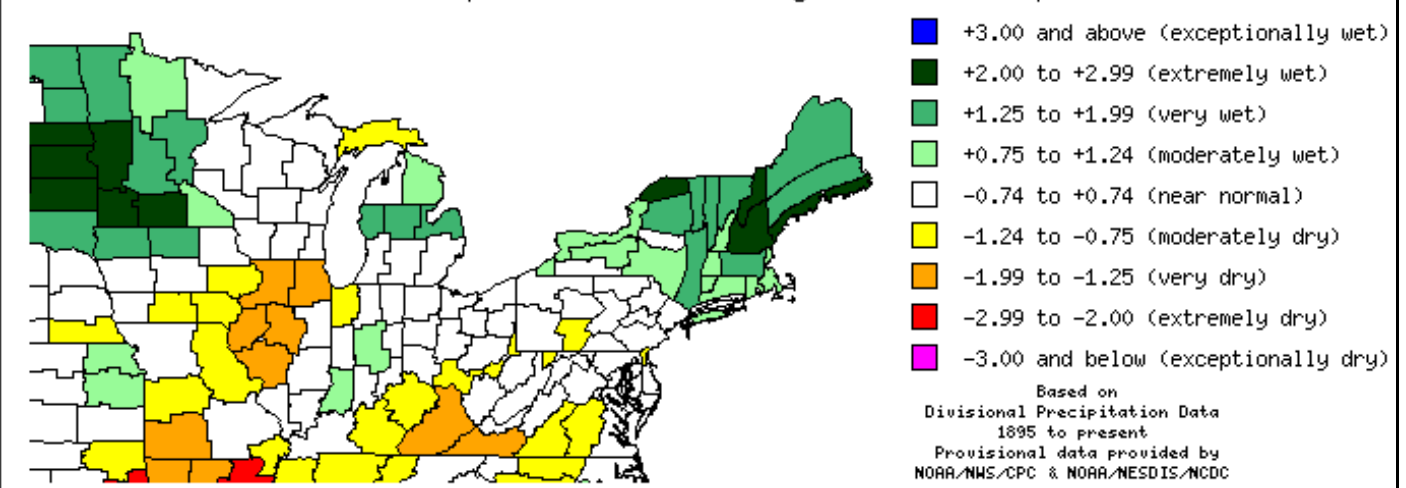


- Three month SPI's indicated drier-than-normal conditions at the end of April 2006 over much of the Northeast and eastern Mid-Atlantic states. Wetter than normal conditions were found in southern parts of Minnesota and Wisconsin, northern Iowa, and southern Indiana.

### 9-month Standardized Precipitation Index through the end of April 2006

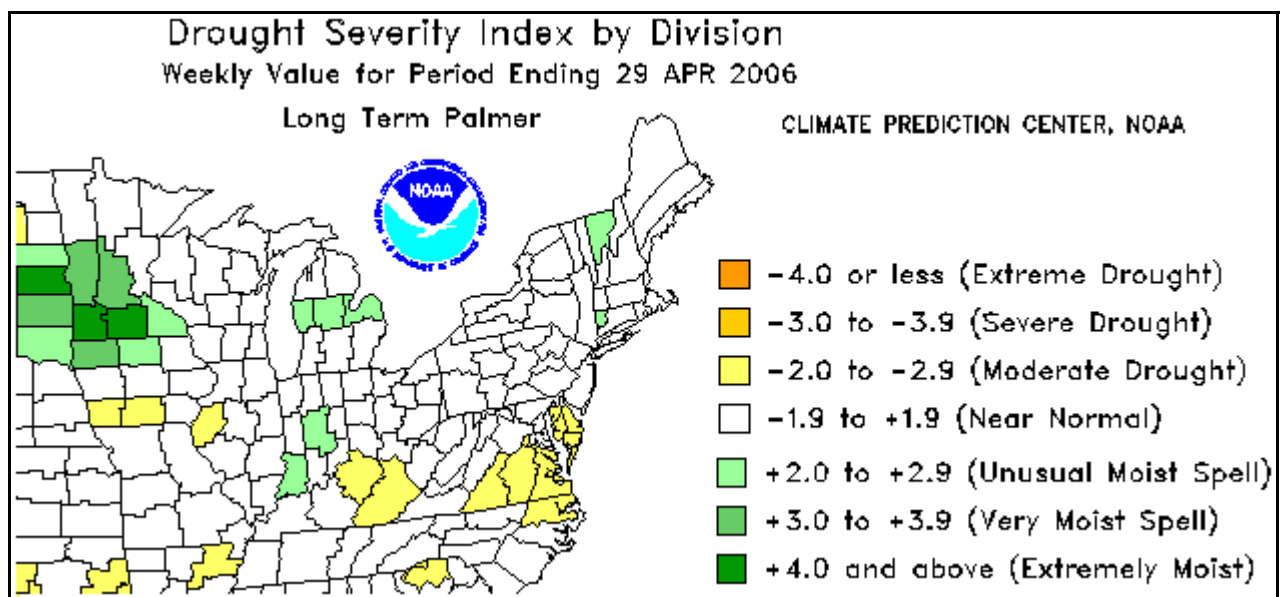
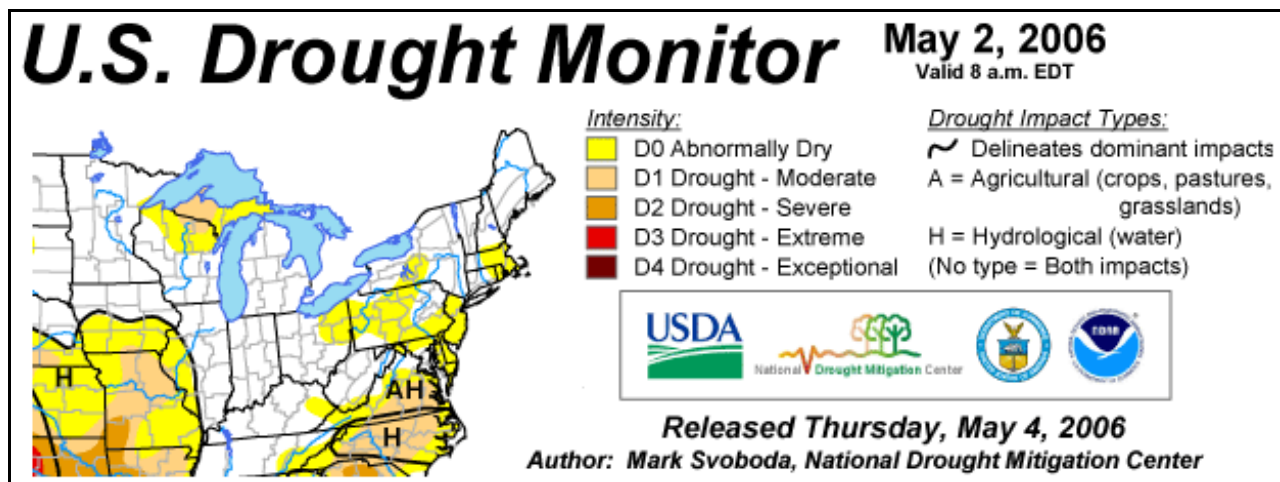


### 12-month Standardized Precipitation Index through the end of April 2006



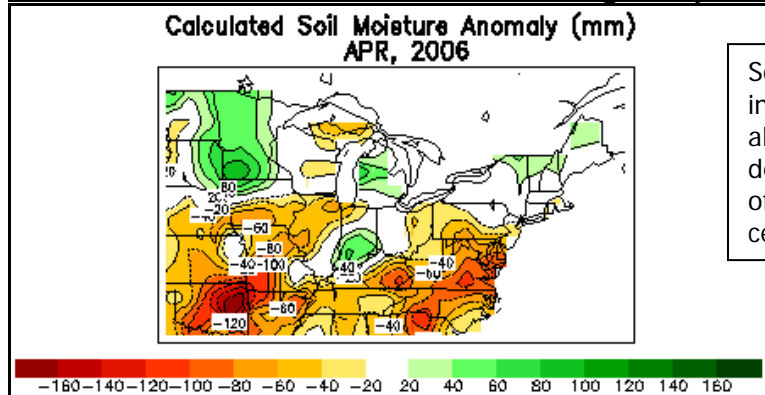
- The 9 and 12 month SPI maps ending in April 2006 indicated wetter-than-normal conditions across the Northeast compact, Minnesota, and the northern parts of the Lower Peninsula of Michigan.
- Meanwhile, dry conditions over the year were indicated across northern Illinois, northwestern Indiana, southern and eastern Iowa, and parts of Missouri.
- Standard Precipitation Index charts displayed above depict precipitation anomalies within each climate zone over the past 1, 3, 9 and 12 month periods. Fairly frequent and significant precipitation events throughout much of 2005 over much of the Northeast and northeastern Mid-Atlantic Compacts curtailed problematic fire activity over these areas in 2005. The only period of time when widespread large fire potential existed in these areas was during mid April when very low relative humidity levels affected much of the Eastern Area. Meanwhile, precipitation deficits developed over the northern Big Rivers, far southern Wisconsin, and southwestern Michigan during the summer of 2005 and in general were still in place at the end of the year. Precipitation deficits developed later in the year over the southwestern Big Rivers.

[What is the Standardized Precipitation Index?](#)



The U.S. Drought Monitor map from May 2, 2006 displayed at the top of the page shows the abnormally dry conditions in place across parts of the northern Wisconsin, parts of the Upper Peninsula of Michigan, Pennsylvania, New Jersey, southeastern New England, and the DelMar Peninsula. Moderate to severe levels of drought were indicated across western portions of the Big Rivers compact as well as the south central Great Lakes. The Long Term Palmer Drought Index Map as of April 29, 2006 indicates the wet conditions in place over southern Minnesota and northwestern Iowa..

### 12 Soil Moisture Month Anomalies ending on April 30, 2006



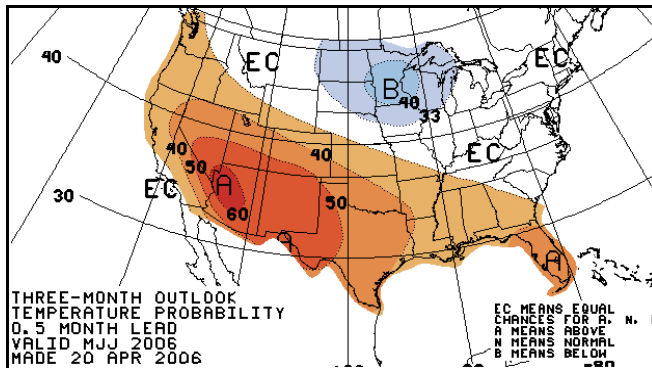
Soil moisture anomalies can be used as a valuable indicator of not only the possibility of fire ignition but also incident longevity. 12 month soil moisture deficits at the end of April were in place across much of the western and northern Big Rivers as well as the central and southern Mid-Atlantic states.

## Long Range Precipitation, Temperature and Drought Outlooks

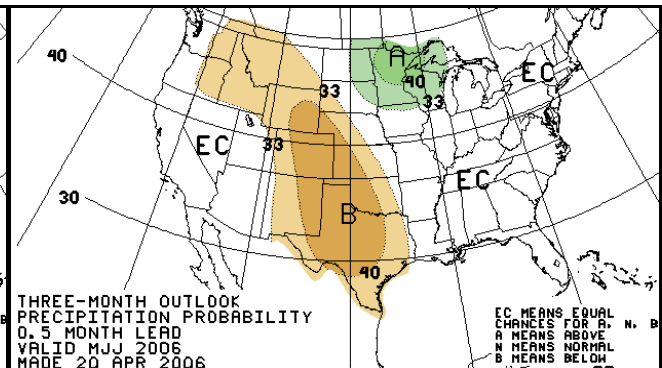
The following graphics below display the temperature and precipitation outlooks for the spring and early summer of 2006 assembled and presented by the Climate Prediction Center on January 19, 2006. The areas contoured in light to medium orange on the temperature outlook maps on the left below indicate a 33 to 40 percent chance of above normal temperatures and below normal precipitation on the maps on the right. Conversely, areas shaded in light to medium green on the right show a 33 to 40 percent chance of above normal precipitation. Areas shaded in light to medium blue on the left indicate a 33 to 40 percent chance of cooler than normal temperatures.

### Climate Prediction Center 90 Day Temperature and Precipitation Outlooks

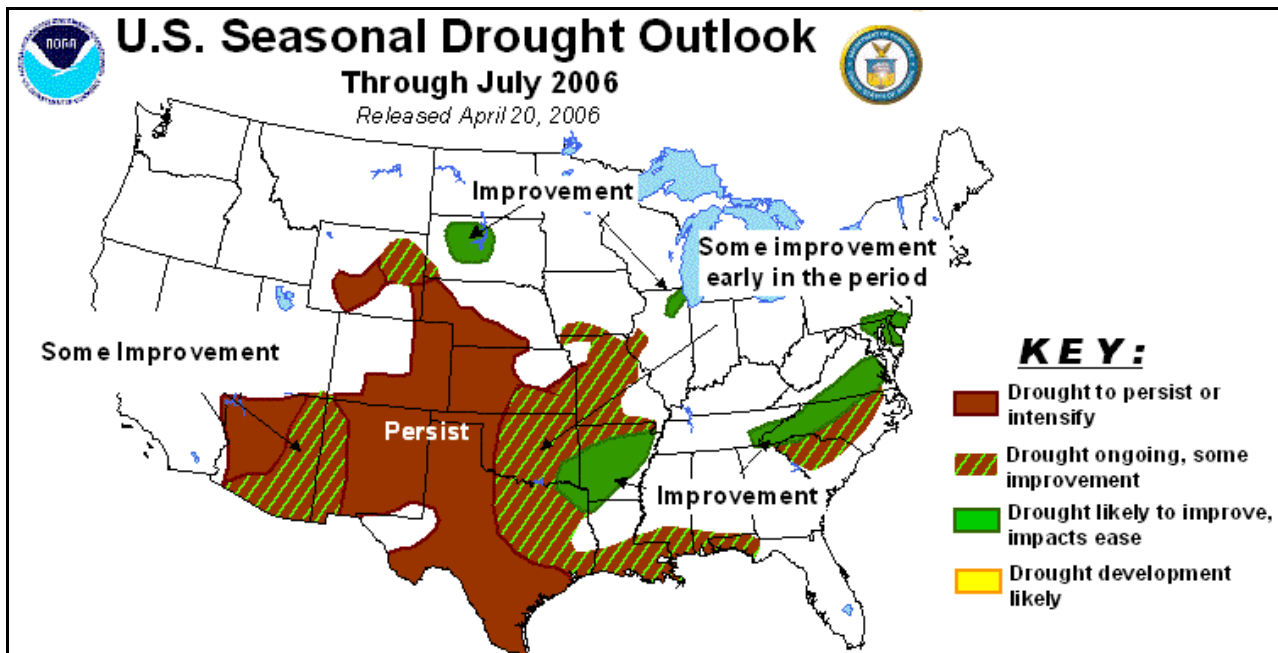
May through July 2006 Temperature



May through July 2006 Precipitation

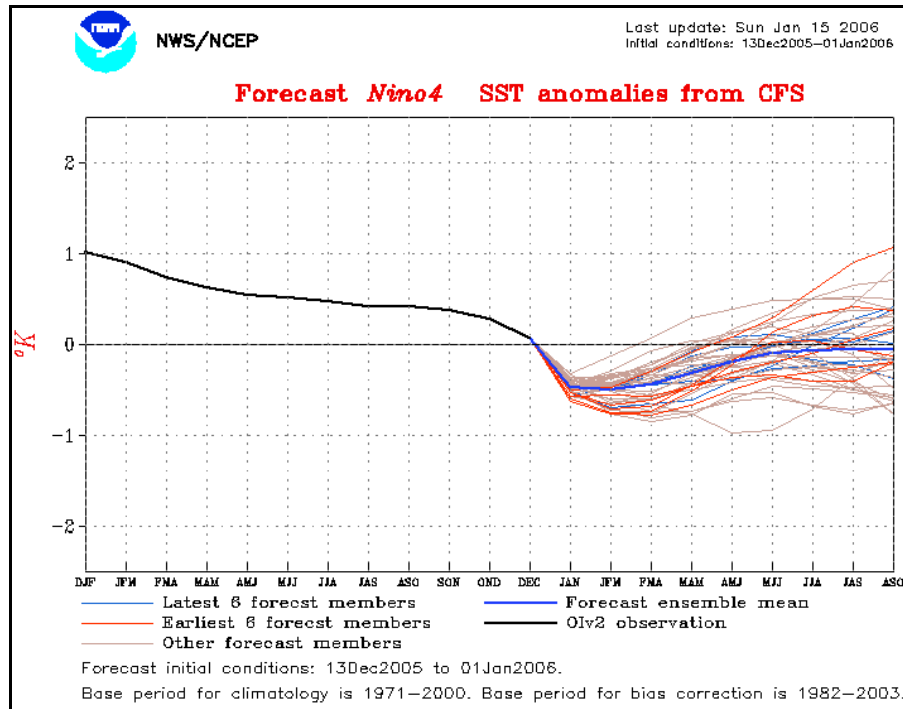


### U.S. Seasonal Drought Outlook



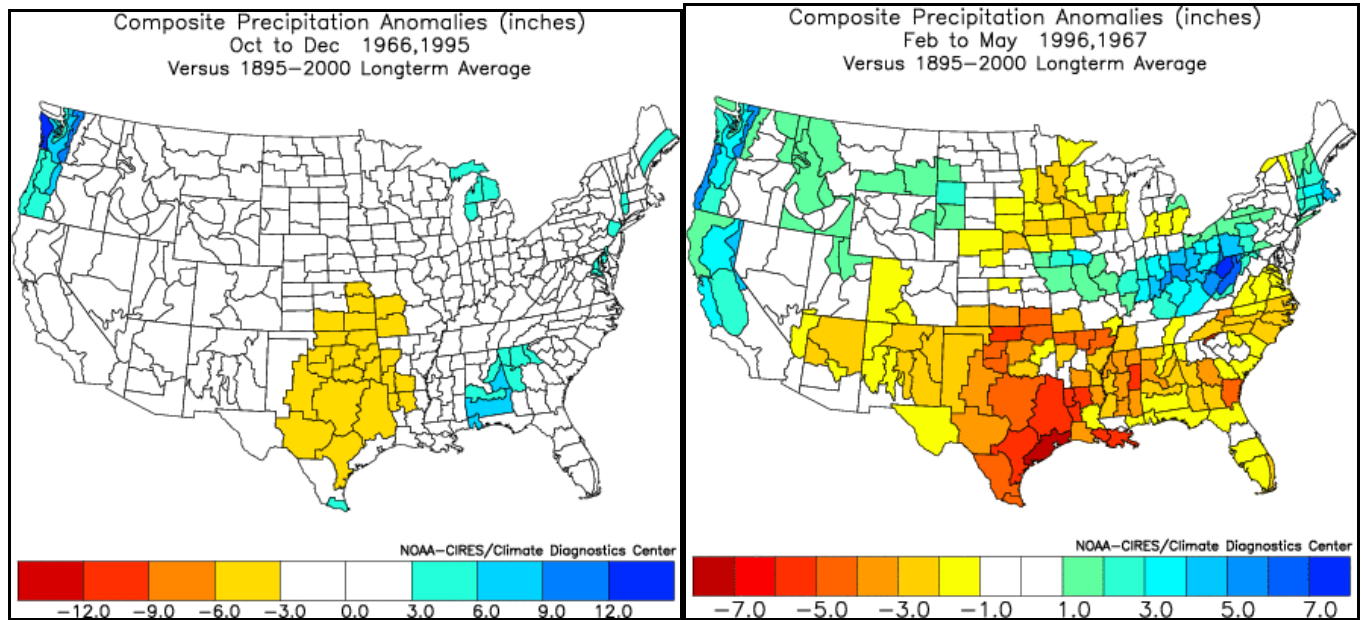
## **El Niño/Southern Oscillation Discussion**

The [El Niño/Southern Oscillation](#) (ENSO) refers to anomalies in sea surface temperatures (SST) across the southern Pacific Ocean. An El Niño episode refers to warmer than normal SST's over the eastern tropical Pacific while a La Niña episode refers to cooler than normal SST's over the same area. The El Niño Southern Oscillation (ENSO) through the winter of 2005-06 was in a neutral to weak El Niño state early in the season but then began to shift to a weak La Niña state in mid December, and is forecast to remain in this state into the spring of 2006 (See graph below, below zero Kelvin represents a La Niña state). Similar ENSO patterns occurred leading up to and during the winters of 1966-67 and 1995-96. During these winters wetter than normal conditions occurred from February through May through the Ohio Valley northeastward into New England. Drier than normal conditions were present in the Southern Plains during fall months prior to these winters and this drier than normal pattern persisted into the late winter and spring months.



### **ENSO Weather Patterns of Previous Similar or Analog Winter Seasons**

Using previous analog or similar sequences of years representing weak El Niño episodes followed by a neutral to weak La Niña (1965-66 and 1995-96), composite temperature and precipitation anomaly trends can be compiled and analyzed to forecast possible trends for the late winter and spring of 2006. These analog years at the end of similar ENSO patterns were entered into a Climate Diagnostic Center program which displays temperature and precipitation anomalies within each climate division. These are displayed below on the right for February through May. They support the Climate Consensus Forecasts for February through April 2006 fairly well except for the drier than normal conditions across northwestern parts of the Eastern Area. The figure on the left below depicts how the fall seasons (1965, 1995) leading into these analog winters were very similar to this past fall with the drying out of the southern and central Plains.



## **State Compact Conditions and Outlooks (Composed on January 20, 2006)**

### **Great Lakes**

#### ***Wisconsin***

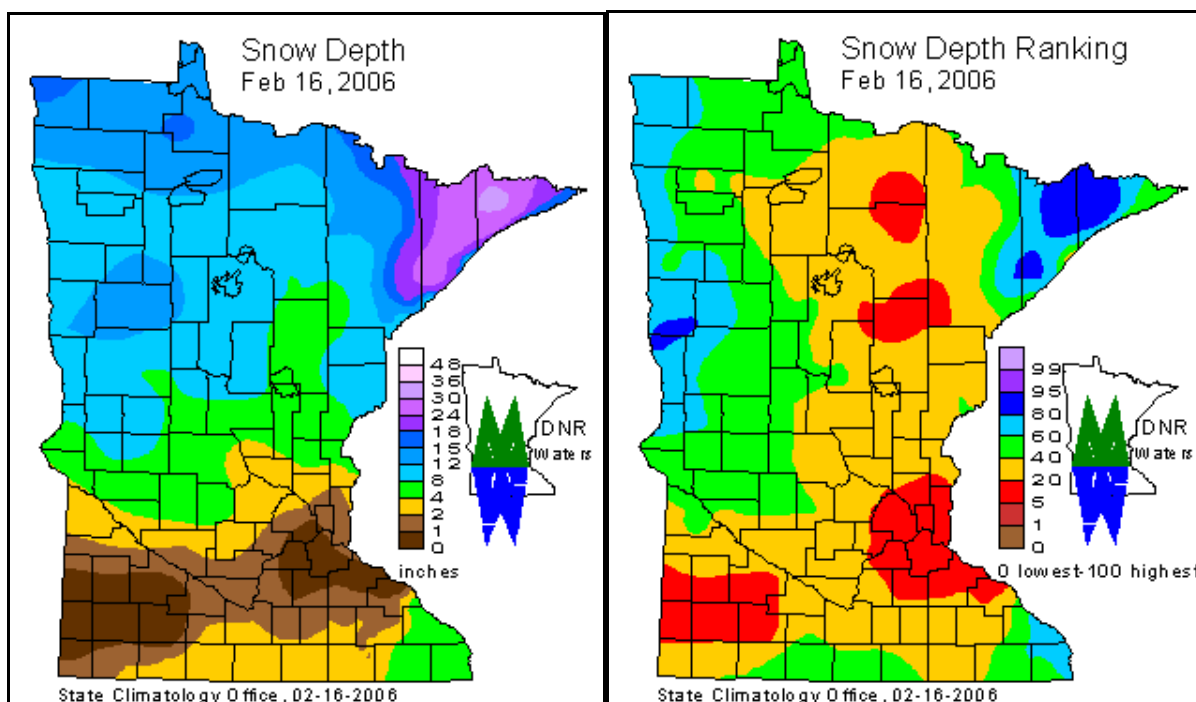
Over the last twelve months, the northern half of Wisconsin generally received near to slightly below average precipitation amounts. The southern half to third of the state went through periods of below normal precipitation amounts, especially during the summer months. The worst area as far as negative precipitation and soil moisture anomalies was the far southeastern part of the state in 2005. Above normal temperatures and below normal snowfall and snow depths from mid December 2005 into late January 2006 may lead to an earlier start to the 2006 spring fire season. Shallow depths of frost will also contribute to an early start to the season unless longer periods of near to below normal temperatures return to Wisconsin through the rest of the winter months. The threat of elevated large fire potential will likely be the greatest across the southern part of the state where negative precipitation and soil moisture anomalies have not been alleviated.

#### ***Michigan***

Outside of the far western end of the Upper Peninsula, much of Michigan experienced periods of below normal precipitation, especially during the summer and fall seasons. The worst area leading into the fall season was the southwestern part of the state. Overall though, rainfall amounts throughout 2005 were near average outside of the southwest part of the state. As of mid January 2006, local fire officials in the southwest reported that precipitation and soil moisture anomalies had improved somewhat. Elevated Canadian Drought and Duff moisture codes were also in place at many RAWS throughout the state in early fall. However, moisture deficits and elevated fire danger indices had been relieved somewhat entering the 2005-06 winter season.

Above normal temperatures from mid December through mid January led to below normal snowfall and snow depths over much of the state. Frost levels were also much shallower than normal due to the warm temperatures. Unless colder temperatures and decent snow events affect the state an earlier and extended spring fire season is anticipated in Michigan.

### **Current Conditions in Minnesota**



## ***Minnesota (Continued)***

Snow cover reports as of February 16, compiled by the Minnesota State Climatology Office, indicated very little snow on the ground across much of southern Minnesota, but 2 feet or more in parts of the Arrowhead. Besides the Arrowhead and western parts of the state, snow depths across Minnesota were under the 40<sup>th</sup> percentile ranking for snow depth as of February 16th.

Ground frost is almost non-existent over much of Minnesota due to the mild winter weather. Logging operations are running into difficulty due to the lack of frost, which is needed to support heavy equipment while running over soft or wet ground. An article was published in the Duluth News-Tribune on January 13, 2006, highlighting the problem. <http://www.duluthsuperior.com/mld/duluthsuperior/13616869.htm>. Even though Minnesota went into winter with more than adequate soil moisture, the lack of cold weather and ground frost could result in lower stream levels and soil moisture by spring. Shelf ice on some streams is evidence that water levels have already dropped since initial freeze-up.

Following is an excerpt from 'Minnesota Weather Talk' for Friday January 13, 2006. Weather Talk is produced by Dr. Mark Seeley, Univ. of Minnesota, Dept of Soil, Water, and Climate.

Topic: Very warm run of weather across the state...

Since December 23rd of 2005, a period going back 21 days mean daily temperatures in Minnesota have been averaging from 14 to 22 degrees above normal, a remarkable run of warm weather. Indeed, over three dozen Minnesota communities have reported daytime highs of 40 F or higher during this period and many nighttime lows in the 20s F. The Duluth Weather Service Office has reported the warmest first 12 days of January, while International Falls has reported mean temperatures during the first 12 days that tie the record warmth of 1992. Some reported that the Rainy River east of Baudette and west of Clementson in Lake of the Woods County was running as the ice cover had broken up. This was the first time local residents had seen this type of thaw in January. Examining the Twin Cities climate record it is difficult to find such prolonged periods of winter warmth. Checking the generally cold and snowy season of November through March, there are virtually no other periods in the climate record that equate to the current one falling in late December to early January time frame. And, further there are only 5 other analogous prolonged periods of warmth which have occurred in other cold months: 1920 starting in mid November; 1958 starting in mid February; 1973 starting in mid November; 1992 starting in mid February. (Taken from The Minnesota Climatology Working Group, <http://climate.umn.edu/>)

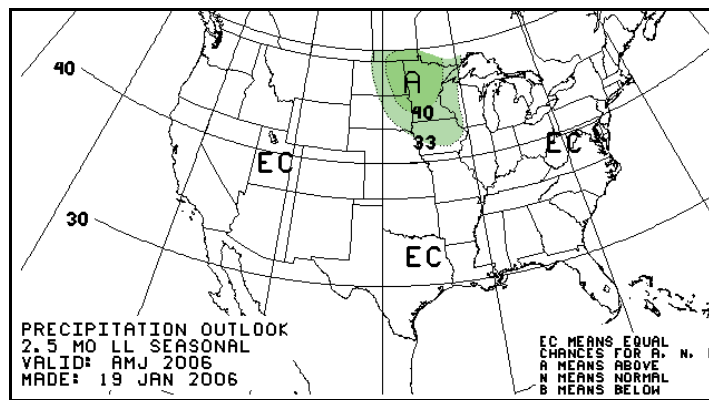
The short-term outlook for the next two weeks shows a good chance of above normal temperature across Minnesota. Precipitation during the period could run above normal, especially in the southeastern part of the State.

### **Spring 2006 Outlook for Minnesota**

Most of Minnesota went into the winter months with fuel moistures at average to above average levels. If snow cover remains minimal through the rest of the winter, fuels will likely be somewhat drier than normal by spring. Cured grasses, which are usually compacted by winter snowfall, are still standing upright. Increased fire behavior can be expected if grasses remain standing into the spring months.

The spring months are the most active for wildfire in Minnesota. But the nature of the early springtime fuels, cured grasses and leaf litter, means that fire behavior is driven by short-term changes in the weather. Fire is generally not a problem in timbered areas until early to mid-May when the heavier fuels have had time to dry out.

The following illustration shows the precipitation outlook for April, May, and June of 2006, generally the months of peak fire season in Minnesota.



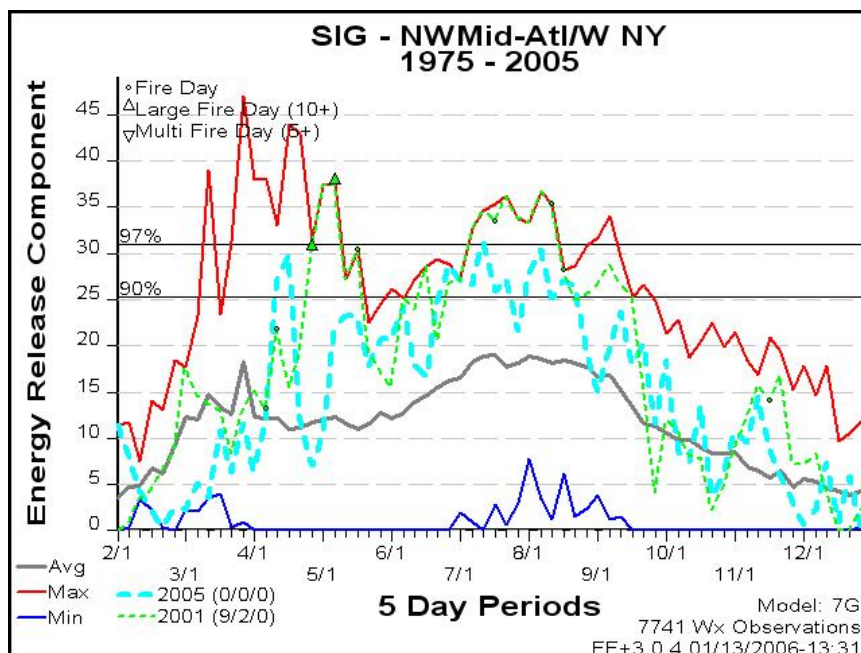
If moist conditions do occur during the spring months as the current outlook depicts, I expect a late start to fire season with low fire occurrence. However, if the current trend continues with little precipitation and warmer than normal temperature, then I expect we will have an early start to fire season, possibly by mid-March, with more frequent fire occurrence and more active fire behavior.

### **Mid-Atlantic Compact**

Based upon the most recent fuels and longer term climate forecasts available, the spring fire season forecast is below normal large fire potential for the northwestern half of the Mid-Atlantic Compact and normal for the southeastern half. Periods of fire activity are expected (relative to historical occurrence trends) through the spring fire season. It is difficult to assess fuel conditions at this early date, but the spring fire season in the Mid-Atlantic Compact is driven by fine, dead fuels and the factors that influence them. Areas of the compact have experienced fine fuels buildup resulting from periods of above normal precipitation events during 2005. These fine fuels loadings will be good sources of ignition given any short term dry periods during the fall of 2006. However, with wetter than normal conditions expected over the northwestern half of the Mid-Atlantic Compact, below normal large fire potential is anticipated during the spring of 2006 over this area.

Below normal snow depths were in place over portions of the northern Mid-Atlantic states. This may create and earlier than normal start to the spring fire season of 2006. It is important to acknowledge that several days to a week of moderate to high fire danger can create fuel conditions that may produce an episode of fires or a major fire, particularly in areas of sandy soils.

The Fire Family Plus graph displayed below shows the Energy Release Components (ERC's) from 2005 (light blue line) from the Allegheny National Forest in northwest Pennsylvania as well as the Iroquois NWR RAWS in far western New York. Note how ERC's hovered around the 30 year average (grey line) through much of the fall season.



## **Northeast Compact**

Summary: For the New England States and New York, there is an equal chance of normal precipitation and normal temperatures for the spring fire season. Although winter precipitation is normal to above normal, snow pack is lacking. This may result in an earlier start to the spring fire season. Given near normal weather conditions, the Compact area can expect normal to below normal fire activity.

Recent Conditions: Significant and wide-spread precipitation was received since September 2005. This above normal moisture trend continues through mid-January. Recent rain events, due to above normal winter temperatures across the compact, has depleted snow pack to less than normal conditions. A reduced snow pack may result in an earlier start to the fire season.

Drought Indices: KBDI, 1000 hour fuel moisture, and soil moisture graphs indicate excessively moist conditions through to present time. There are no indications of any drought potential prior to spring green-up. However, the spring fire season is driven by fine, dead fuels and the factors that influence them. Related to fire activity, these fuels are responsive to short term weather variations versus seasonal trends. This statement is supported by a significant increase in initial attack activity that occurred in late April and early May of 2005. Not uncommon during the spring, dry Canadian High pressure systems move in and quickly dry fine surface fuel. Every Compact member was busy for about a ten day period.

Fuel Conditions: All fuel size classes are saturated. New York, New Hampshire, and Vermont report widespread defoliation from the forest tent caterpillar for the second year in a row. Unless wide-spread drought conditions set up, there should be no major impact.

## **Northeast Compact Comments**

**Rick Vollick, USF&W Service:** 2005 was one of the wettest years on record, evenly distributed throughout. KBDI had no opportunity to build before the next rain event arrived. Below normal to normal fire conditions are anticipated through June 2006.

**Joe Kennedy, New York State Forest Ranger:** 2005 was just below average for initial attack and acres burned, with no large fires or problem fire behavior experienced. However, we experienced an above average number of High fire danger days in late summer due to September being one of the driest months on record. Some RAWs sites recorded over 20 days without rain, resulting in KBDI values in the 90<sup>th</sup> percentile across the southern part of the State. The situation changed dramatically the next month, as October followed as one of the wettest on record, quickly returning the entire State to Low fire danger for the remainder of the season. The one factor of concern for us in 2006 is the widespread defoliation from the forest tent caterpillar, with infestations now covering most of the Catskills, the Central Leatherstocking Region, and the western Adirondacks.

**Mike Ricci, Maine Forest Service:** In 2005, the State of Maine had 486 fires with 595 acres burned; our goals are 750 acres and less than 2000 acres! The bulk of these fires came in April and May as usual. There were no significant summer or fall fire events even though several stations sustained KBDI's in excess of 300 from 6/29 to 10/10. Highest BUI was 83 on 8/13; highest KBDI was 580 recorded in September. In spite of that, most of the state approached or broke 100 year rainfall records by the end of the year. If I were to base my predictions on averages alone, I would say that we are overdue for a prolonged drought at some point during 2006!

**Doug Jones, Acadia NPS:** At this time I don't expect anything out of the ordinary, considering all the precipitation we received in October and the current level of the water table. For the last four months of 2005, our precipitation was 163% of normal. Of course, if we don't get much snow for the rest of the winter and the temperatures stay above normal, we'll probably have an early spring fire season.

**David Crary, FMO Cape Cod NS:** Without snow we can expect increased potential for wildland fires on Cape Cod, however the water table is as high as ever. No recent fire activity.

**Kevin Grady, CTS:** Connecticut had a fairly quiet 2005 fire year with the bulk of the fires occurring over a ten day period in mid-April and from late August into mid-September. Then, when October arrived, like everyone else, the clouds opened up and dropped deluge after deluge upon us. 2006 is a big guess at this point. Early predictions were for a long, hard winter (i.e. lots of cold temps.& snow) but once winter officially started it has been anything but what was predicted. At this rate, we could have an early spring and more fire potential but there's still plenty of winter to get through. We are certainly long over due for a bad spring fire season and '06 could be the year.

**Bob Stewart, NHS Fire Service:** Although our above normal precipitation pattern continues into 2006, our snow pack is approximately 25%-50% below normal statewide. Our temperature has averaged well above normal since late December causing much of our precipitation to fall in the form of rain. It appears the above normal temperatures will continue for the next 10-14 days which will reduce our snow pack even more. If the current weather trend remains we are likely to have a very early spring fire season. Due to record amounts of rain during the fall and continued above normal precipitation, lakes and streams are all above normal for this time of year. One consideration for late spring and summer will be defoliation caused by the Forest Tent Caterpillar and to a lesser extent other forest pests. Last year we had several thousand acres with heavy defoliation and expect much worse this year.

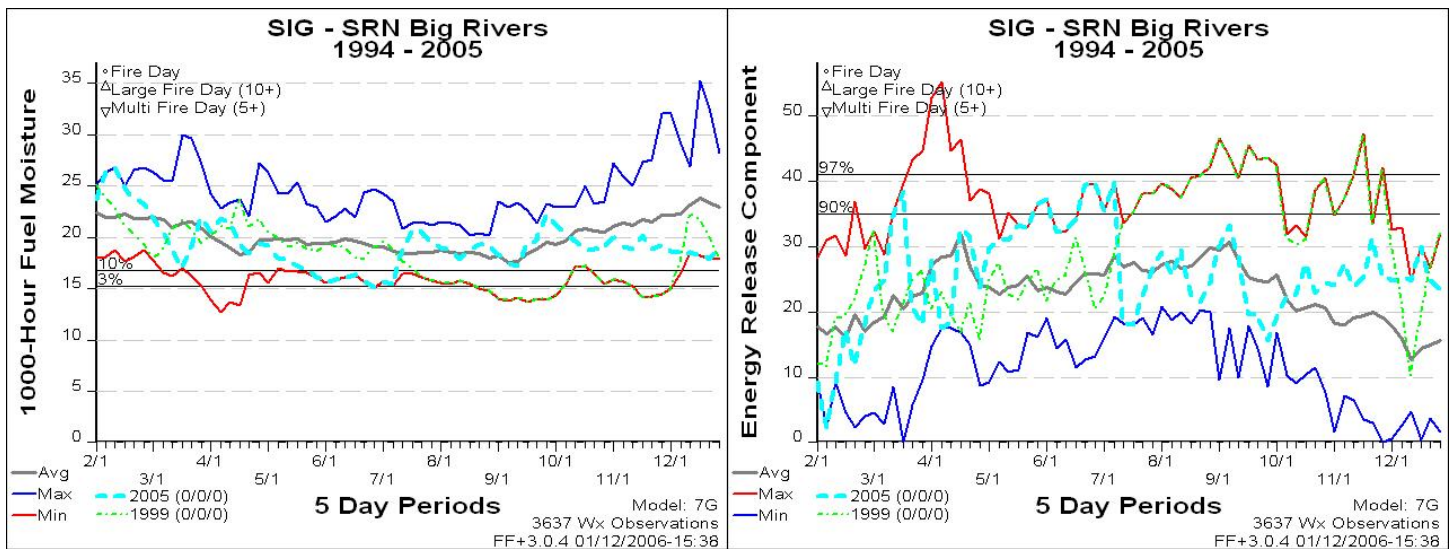
**Tess Greaves, VT Department of Forests, Parks & Recreation:** Overall, 2005 was normal with a very active spring fire season and not much activity thereafter. Every month, including October, had stretches with little to no rain (from 7 - 15 days with less than .30"). Then a major rain event (mostly from remnants of hurricanes) would make up the monthly deficit bringing totals to normal for the month. Fuels started drying out in late summer through the first week in October, but KBDI/1000 hr. values did not have a chance to get much above normal. October was the wettest month on record in most locations in the state (the fire weather station in Marlboro in southern VT had 19.85" in October!!).

Winter so far as been mild overall with no major snowstorms or cold spells. We have had temps below freezing off and on and light snowfalls with a current snowpack between 4-8" in low elevations and 12-20 in higher elevations. We have had several thawing events with sleet, freezing rain and rain (some heavy) since November. Currently we are experiencing freezing rain causing lots of problems in northern VT. With the saturated ground from a wet fall and rain events so far this winter, rivers are running high and there could be some potential for flooding this spring.

We are expecting more defoliation from forest tent caterpillar again this spring. Last year about 210,000 acres were defoliated, mostly in southern VT. We are planning a spray project for sugarbushes but non-sugarbushes will likely get hit hard again this year with the insect population moving northward into central Vermont.

### **Big Rivers Compact**

The southwestern quarter of the Big Rivers Compact experienced a period of below normal precipitation towards the end of the summer and into the fall of 2005. However, southeastern portions of Missouri experienced some precipitation events which alleviated some of the negative precipitation anomalies through the last quarter of 2005. Meanwhile, the north central and portions of Iowa were still experiencing moderate to extreme levels of long term drought and negative soil moisture anomalies at the end of 2005 into early 2006. Warmer than normal temperatures and below normal snow events have added to the elevated large fire potential across these areas as well. With equal chances of above or below normal precipitation forecast over these areas they have been placed in above normal large fire potential for the spring of 2006. An earlier than normal spring fire season is also anticipated. The Fire Family Plus graphs displayed below were run using weather data from four RAWs within the Mark Twain National Forest located in southern Missouri. The data from 2005 is displayed in light blue.



## **Resource Outlooks**

Historically the Eastern Area does not import large amounts of resources. However, based upon current information the spring 2006 fire season across portions of the Great Lakes could begin earlier than normal due to the below average snow depths in place over parts of this compact towards the end of January. If these below normal snow depths/snow amounts are not alleviated through the remainder of the winter months grasses will not be compressed and remain standing. These fine fuels will then be readily available for ignition after snow melt and may create a higher resource need if any periods of high fire danger occur before green-up. Fires in the peat soil areas may also be very problematic if spring time rainfall events/amounts are minimal.

The southwestern, and parts of the northern and western Big Rivers may also experience an earlier start to their fire season based on current precipitation and soil moisture anomalies in place towards the end of January. These anomalies directly affect the finer fuels which carry fire in these areas.

Due to significant hurricane activity during the 2005 season, Eastern Area resources have assisted with recovery efforts in the Southern Area. Along with national wildland fire incidents, response to hurricane assignments has continued through out the winter.

## **May through July 2006 Fire Potential**



The consensus climatic outlook for the spring of 2006 was made by the following people:

Joe Kennedy, New York State Forest Ranger  
Daniel Graybeal, NOAA, Northeast Regional Climate Center  
Karma Kanseah, Intelligence Officer, Eastern Area Coordination Center  
Rick Vollick, US Fish & Wildlife Service, New England  
Steve Marien, Fire Weather Program Manager, Eastern Area Coordination Center  
Steve Maurer, Assistant State Fire Warden, New Jersey  
Tess Greaves, State of Vermont Department of Forests, Parks & Recreation  
Mike Ricci, Maine Forest Service  
Doug Miedtke, Fire Management Specialist, Minnesota-DNR  
Don Scronek, Forest Assistant Fire Management Officer, Allegheny NF, PA  
Reggie Bray, Mark Twain National Forest, USFS, Missouri  
Kevin Grady, State of Connecticut Forest Service  
Robert Ziel, Fire Management Specialist, Michigan DNR  
David Crary, FMO Cape Cod, MA National Seashore, National Park Service  
Doug Jones, Acadia National Sea Shore, National Park Service  
Bob Stewart, State of New Hampshire Fire Service

Climate Forecast Contributors:

Ed O'lenic, NOAA-Climate Prediction Center  
Kevin Scasny, Assistant Fire Weather Program Manager, Southern Area Coordination Center  
Rich Naden, Assistant Fire Weather Program Manager, Southwest Coordination Center